BRADSHAW'S

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TO OUR READERS.

IN this age of Periodical Literature there are but few publications which do not profess to supply some deficiency, or to communicate information upon some subject previously unknown. We have no wish to depart from so useful a rule, and therefore we at once submit the chief grounds on which the MANCHESTER JOURNAL rests its claims to the notice of the reading Public.

They are, briefly, the two following:—

The absence of any publication combining the popular characteristics of our standard periodicals with notices of subjects of local interest calculated to induce attention to the numberless interesting objects in antiquities, legends, arts, sciences, and manufactures with which this district abounds; and

The extensive circulation in the Provinces of worthless publications, weekly issuing from the most degraded portions of the Metropolitan Press, which address themselves to the grosser passions of our nature, and are fitted only to deprave and ruin.

By supplying the deficiency referred to, on the one hand, we hope to assist in counteracting the evil alluded to, on the other. In the accomplishment of these objects we propose to give occasional papers upon subjects of general interest,—descriptions of public buildings, institutions, and places in and around Manchester,—and notices of local antiquities, improvements, and inventions, without excluding, however, those of more distant localities and countries.

Attaching the highest importance to the Educational institutions of our country, a proportionate attention will be devoted to them, whilst the equally interesting topic of home training,—physical, intellectual, and moral,—will form a prominent feature of the Journal.

Nor will the juvenile members of the community be overlooked, as a definite portion of our columns will be set apart to familiar explanations of the Engraving accompanying each Number, and to appropriate reading for the young.

The external appearance also of the work, we trust, will be of such a character as to render it acceptable to the opulent; whilst, by the lowness of the price, it will be placed within the reach of all classes, in the earnest hope that it may become at once the instrument of communicating, to those who move in other spheres, correct information as to the actual condition, wants, and feelings of the Operative, and be the means of inducing such habits of foresight and reflection, in this important portion of the community, as may tend to elevate their character and multiply their substantial comforts.

In conclusion, we refer to the contents of the present Number as an earnest of our future exertions, confidently anticipating the countenance and support of all who approve of the objects and spirit of our undertaking.

THE MERSEY AND IRWELL NAVIGATION.

FIRST PAPER.

In the Engraving which accompanies this Number the artist has introduced a rather startling novelty, by anticipating the probable results of the contemplated improvement of this important navigation. The channel of the Irwell is represented as possessing water sufficient in depth to float a vessel of considerable tonnage up to the intended wharf of the Old Quay Company, adjoining the Victoria Bridge. However sanguine this anticipation may at present appear, we have the strongest confidence in its realization from the determined energy and perseverance of the powerful body who have undertaken its accomplishment.

As this subject is daily acquiring increased importance, in consequence of its intimate connexion with the great mercantile interests of this town, we believe we shall at once gratify our readers, and assist in promoting those interests, by supplying, in a condensed form, correct information of the course and tributary streams of the two rivers,—the history of the navigation to the present time,—and the means proposed to improve and extend the use of the rivers for the purposes of transit.

1st. *The course and tributary streams of the rivers Mersey and Irwell.* The early history of these streams presents little worthy of observation apart from the ingenious theory of Mr. Charles Clay, who has very ably advocated their improvement on geological data, and has supported his views by a reference to notices gleaned from Roman and Saxon writers, as well as to their maps, all of which tend to prove that the course of these rivers described only three gentle curves from Liverpool to Manchester,—that the tortuosities of their present course have been formed in the lapse of ages, by the effects of the *materiel* washing from one bank, and depositing on another, and especially that the Irk, Irwell, Mersey, Bollin, and Weaver originally joined each other, like all other rivers, *obliquely*, and at their junctions presented pointed pieces of land; and that lastly their united waters flowed into the Irish Channel in a gradually widening outlet, resembling a funnel or trumpet mouth. His suggestions for restoring the rivers to this form will properly fall under the last division of our subject; we therefore at once proceed to give a description by the venerable Harrison, chaplain to Lord Cobham, quoted by Mr. Baines in his History of Lancashire, who justly remarks, that "although this description was written nearly three hundred years ago, it will not on that account be less acceptable to antiquarian readers, while others will be impressed with the immutability of these striking features of Nature, and with the slight variation of the names of the places through which the rivers pass, or that are watered by their fertilizing streams."

"The Mersey riseth among the Peke hills, and from thence going down to the Woodhouse, and taking sundrie rilles withal by the waye, it becommeth the confines betweene Chester and Darbyshyres. Going also toward Goitehal, it meeteth with a faire brooke increased by sundrye waters called Goyte. The Goyte riseth not far from the Shire Meere hill (wherein the Doue and the Dane haue their original) that parteth Darbyshire and Chesteshyres in sunder, and thence commeth downe to Goyte howses, Ouerton, Taxhall, Shawcrosse, and at Weybridge taketh in the Frith, and beneath Berdhall the Set that riseth aboue Thersethall and runneth by Ouersette. After this confluence also the Mersey goeth to Goyte hall, and at Stopford towne meeteth with the Tame, which diuideth Chestershire and Lancastershyres in sunder, and whose head is the very edge of Yorkshyre, from whence it goeth Southwards to Sadleworth Firth, then to Mukelhurst, Staly hal, Ashton Underline, Dukenfield, Denton, Reddish, and so at Stockeford or Stopford into the Mersey streams, which passeth forth in like sort to Diddesbyry, receyuing a brooke by the waye, that commeth from Dime parke, by Brumhall parke and Chedley.

"From Diddesbury it proceedeth to Northen, Aston, Aiston, Flixton, where it receiueth the Irwell, a notable water which riseth aboue Bacop, and goeth thence to Rosendale, and in the waye to Aytenfielde it taketh in a water from Haselden. After this confluence, it goeth to Newhall, Brandlesham, Brury, and aboue Ratcliffe ioyneth with y^e^ Rache water, a faire streame. Beying therefore past these two, our Irwel goeth on to Clifton, Hollonde, Edgecroft, Strang wayes, and to Manchester,* where it vniteth itselfe with the Yrke, that runneth thereinto by Royton, Midleton, Heaton hill, and Blackeley. Beneath Manchester also it meeteth with the Medlocke that cometh thyther from the north east side of Oldham, & betweene Clayton and Garret Halles, and so betweene two parkes, falling into it about Holne. Thence our Irwel going forward to Woodsall, Whicleswijc, Ecles, Barton, & Deuelhom, it falleth neere vnto Flixton, into the water of Mersey.

* "Lelande speaketh of the Corne water aboute Manchester, but I knowe nothing of his course."

"The Rache consisteth of sundrye waters, whereof eche one in a maner hath a proper name, but the greatest of all is the Rache it self, which ryseth among the blacke stony hilles, from whence it goeth to Littlebrough, and beying past Clegge, receyueth the Beyle, that commeth thither by Mylneraw chappell. After thys confluence also, it meeteth with a rill neere vnto Rachedale, and soone after with Sprotton water, and then the Sudley brooke, whereby his chanell is not a litle increased, which goeth from thence to Grisehurst and so into the Irwell, before it come at Ratcliffe. The second streame is called Bradsha. It ryseth of two heades, aboue Tureton church, whence it runneth to Bradsha, and ere long taking in the Walmesley becke, they go in one chanell till they come beneath Bolton in the More. From hence (receyuing a water that commeth from the rootes of Rauenpike hill by the way) it goeth by Deane and Bolton in the more, and so into Bradsha water, which taketh his way to Leuermore, Farnworth, Leuerlesse, and finally into the Irwell, which I before described, and whereof I finde these two verses to be added at the last.

"Yrke, Irwell, Medlocke, and Tame,
When they meete with the Mersey, do lose their name.

"Nowe therefore to resume our Mersey you shall vnderstande that after his confluence with the Irwell, he runneth to Partington, and not farre from thence interteineth y^e^ Gles, or Glesbrooke water, increased wyth sundrye armes, whereof one commeth from Lodward, an other from aboue Houghton, the thyrde from Hulton Parcke, and the fourth from Shakerley; and beyng all vnited neere vnto Leighe, the confluence goeth to Holcroft, and aboue Holling greene into y^e^ swift Mersey. After this increase the saide streame in lyke sort runneth to Rigston, & there admytteth the Bollein brooke water into his societe, which rising neere y^e^ Chamber in Maxwell Forest goeth to Ridge, Sutton, Maxfield, Bollington, Prestbyry, and Newton, where it taketh in a water coming from about Pot Chappell, which runneth from thence by Adlington, Woodforde, Wymsley, Ryngey, and Ashley, there receyuing the Byrkin brooke that commeth from betwene Allerton and Marchall, by Mawberly, and soone after the Marus, or Mar, that commeth thereinto from Mar towne, by Rawstorne, and after there confluences goeth on to Downham, and ouer against Rixton beneth Crosforde bridge into the Mersey water, which proceeding on admitteth not another that meeteth with all neere Lym before it go to Thelwall. Thence also it goeth by Bruche and so to Warrington, a little beneath crossing a brooke that commeth from Par by Browsey, Bradley, and Sankey on the one side, and another on the other that commeth thither from Gropenhall, and with these it runeth on to nether Walton, Acton grange, and so to Penkith, where it interteineth the Bolde, and soone after the Grundiche water on the otherside, that passeth by Preston, and Daresbyry. Finallye our Mersey goyng by Moulton, it falleth into Lierpool Hauen, when it is past Runcorne. And thus much of the Mersey, comparable to the Wyuer, and of no lesse fame than most ryuers of thys Islande."

When the above quaint but graphic sketch was penned, many of the streams enumerated would present little to the contemplative mind beyond what the amiable Leigh Richmond has associated with the rivulet which in its short course waters the gardens of the cottages past which it flows, enriches the meadows near its banks, satisfies the flocks on the adjacent hills, and refreshes the shepherd boy who tends them; then finishes its brief course in a secluded dell,—furnishing an apt emblem of a faithful country pastor,—as much the poor man's friend as the rich man's counsellor. In the present day, however, it would not require a great stretch of the imagination to trace a similar but still more striking analogy between the multiplied uses to which the streams of this district are directed, and the diversified applications of the industry, skill, and enterprise of the countless multitudes of human beings who pass, in successive generations, from their cradle to their gave in this well-watered region, rendering its mineral productions and its natural advantages, with the discoveries of science and the accumulation of capital, alike contributory to the wealth of the empire, and to the supply of clothing for the entire human family. So "our" rivers and their tributaries,—after discharging the ordinary functions of irrigating the pastures, giving beauty to the landscape, and refreshment to the cattle, in the agricultural portions of the countries through which they wend their courses,—here commence their more arduous and complicated duties of turning machinery by their falls or the force of their currents, supplying reservoirs for the processes of bleaching, dying, calico-printing, and paper-making, and feeding thousands of steam engines with the element of their gigantic power.

After their waters have thus been absorbed and disgorged in numberless appliances, and when, like the Medlock, they loose their name and ancient bed in an artificial canal, or more honourably terminate their course in the Irwell or the Mersey,—they only change the character of their services, by executing the still

more important offices of bearing to our doors the supplies of food, fuel, and material for this great manufactory, and in effect, if not literally, of conveying from hence the products of our industry from "sea to sea, and from the rivers to the ends of the earth."

THE ROUTE TO INDIA THROUGH EGYPT.

As the settlement of the Eastern question, and the extension of steam communication to the Eastern Presidencies by the Peninsular and Oriental Steam Navigation Company, leave little doubt that the high road to British India will now be permanently established through Egypt, correct information as to the mode and means of transit through that country becomes a matter of public interest.

The following brief account of the journey from Alexandria to Suez, of the passengers by the January trip of the Oriental, may be deemed of sufficient interest to merit a place in our Journal.

Cairo, January 28th, 1841.

The Oriental was under steam on her voyage from Falmouth to Alexandria only 12 days, 9 hours, and 45 minutes; but the advantage to the passengers which would have been gained by so short a run out, in affording them time for proceeding leisurely through Egypt, was lost by our being detained at Malta nearly three days, waiting for the steamer from Marseilles, with that portion of the Indian mails.

We arrived, however, at Alexandria, early on the morning of the 18th instant, and were met by a report that the arrival of the Bombay steamer at Suez had already been telegraphed from Cairo, which, however, turned out to be incorrect.

The anxiety of the passengers as to their being able to reach Suez in time to save the sailing of the steamer for Bombay being therefore very great, Messrs. Briggs applied to the Pacha for the use of his small steam-yacht, then at Atfeh, on the Nile, to take the passengers up to Cairo.

The Pacha, with his usual attention to Indian travellers, readily granted his permission, provided Commodore Sir Charles Napier, to whom he had in the meantime lent the steamer, offered no objection. The Commodore very kindly waved his priority of right to her, and the necessary order was obtained.

We started from Alexandria for Cairo about five o'clock in the afternoon of the day of our arrival, embarking with our luggage, &c., in track-boats on the Mahmoudieh Canal, the mails being despatched by donkeys overland. The large track-boat, in which, with about thirty of the party, I happened to be, was a very commodious vessel of about 130 tons, fitted up with two cabins, one for ladies, and another for gentlemen, and has a large luggage room; has sofas all round the cabins, with dining tables in the centre, windows in the sides, and is, in short, in her interior arrangements, very similar to a Gravesend steamer, but is much too heavily built for speed.

We found plenty of refreshments in the English style, with good attendance, &c., on board of her.

She was tracked by four horses, and we arrived at Atfeh, on the Nile, at five o'clock in the morning of the 19th, having been twelve hours in tracking the distance on the canal, 48 miles.

The Mahmoudieh Canal is by no means the sort of slimy ditch which, from some representations, I was led to conjecture it. It is very broad, the banks in several places adorned with villas and rows of trees, and, on the whole, being free from locks, presents more the appearance of a river than a canal.

At Atfeh, a wretched cluster of hovels, we experienced a delay of eight hours, in consequence of a detention which happened to Mr. Hill, who was left to follow us from Alexandria with a "teskera," or official order for the steamer, and some of the party, therefore, yielding to their impatience, proceeded in canduos, or Arab boats.

The remainder embarked in the Pacha's steamer, with which we started for Cairo about three o'clock, P.M.

After steaming about twenty miles, one of the engines broke down, and we had to perform the remainder of our journey with one engine. The journey from Atfeh to Cairo is variously estimated at from ninety to a hundred and fifty miles; it depends, however, on the state of the Nile. At high Nile, when there is no necessity for following all the sinuosities of the channels, the distance is much shorter than at low Nile. At present the river is getting low, and as the steamer, with the passengers and luggage on board, drew nearly three feet water, much caution and a thorough knowledge of the river was necessary to prevent our getting aground.

Fogs occasionally occur on the Nile, and in one of those we were forced to drop the anchor, and wait five or six hours.

The average strength of the current was about three miles an hour.

We arrived at Cairo about 7 o'clock P.M., on the 21st instant, and were glad to find that we were in advance of the mails. The party located

themselves, therefore, in tranquillity at Hill's and Waghorn's hotels respectively, where excellent English dinners were found awaiting them, and the saloon tables covered with Indian newspapers of dates from Bombay down to the 1st instant.

We found also that the Victoria had only arrived at Suez on the 18th. As the mails from Alexandria had not arrived, it was arranged that we should not start for Suez until Saturday morning the 22d, thus giving the travellers a day clear for seeing the lions in and about Cairo, and which was occupied in visiting the Pyramids, the citadel, the gardens and palace of Shoobra, the slave market, shopping in the Grand Bazaar, &c. At 9 A. M. of the 23d we started in grand procession for the Desert.

The parties who had proceeded from Atfeh in the Arab boats having also arrived and joined us, the passengers amounted to fifty in number, including twelve ladies and three female servants.

The mails consisted of 62 chests and three bags. For the conveyance of the whole, with luggage, provisions, &c., the following means were required:—145 camels, 60 donkeys, 12 saddle horses, 12 carriage horses, 7 carriage camels, 12 donkey chairs, 3 two-wheel carriages, and 1 four-wheel ditto. Camel and donkey men, servants, &c., 130; escort of Arab horsemen, ordered by the Pacha, 17; travellers, as already stated, 50; total of bipeds, 197.

After threading our way through the narrow streets of Cairo, we fairly emerged on the Desert en route for Suez, and if Cruikshank or Alfred Crowquill could have had a peep at us, he would have found such ample material for a sketch as would scarcely have failed to enrapture him. So motley a group can only be seen in the Desert of Suez.

After journeying amidst much fun and frolic for about 20 miles, we halted at station-house No. 2; and the delicious exhilarating air, together with the exercise, having sharpened our appetites, we resolved to make a demand on the commissariat department. Roast fowls, turkies, and geese, hams, mutton, London porter, pale ale, Port, Sherry, Madeira, Claret, and Champagne, with all necessary accompaniments, soon made their appearance, and were disposed of, although somewhat in pic-nic style, to the apparent satisfaction of all present. We then proceeded forward towards the centre station, where we were to rest for the night, our Arab escort, for lack of any real Bedouins to encounter, amusing us with sham fights, in which they displayed great dexterity in the management of their horses.

At twelve at night we stopped at the centre station, a distance of 45 miles from Cairo, where tea, coffee, and supper were set out, and where we slept and breakfasted, and then continued our journey towards Suez, making another pic-nic dinner on the road at No. 6 station. We arrived at Suez about four o'clock in the morning of the 25th, slept at the hotels, and the same afternoon the mails and passengers were embarked in the honourable Company's steamer Victoria, which forthwith departed from Bombay.

I have no hesitation in stating, that such are the natural facilities of the route through Egypt, that with, comparatively speaking, trifling expense, it may be made as expeditious and convenient as most routes of a similar distance even in England. With the exception of the nine miles from Cario to the station-houses, which are sandy, the whole of the road between Cairo and Suez is a hard gravel, equal to the generality of country roads in England, previous to the Macadamizing system. About 15 miles between No. 6 station and Suez requires clearing of loose stones, which renders carriage travelling uneasy. The stones, however, only require to be picked off and pilled up either in heaps or as a small fence on each side of the road, and the Pacha will order this to be done at once. This being done, carriages of any description could travel the road, and, with relays of horses at the station-houses, the distance between Cairo and Suez may be done with ease in 12 hours. A steamer of good power, with an iron luggage boat, would do the distance from Atfeh to Cairo in 20 hours, or with the stream from Cairo to Atfeh in 10 hours, and with a proper track boat on the canal, similar to those used on the Shannon, that distance might be done in seven hours; thus reducing the transit through Egypt to 39 hours of actual travelling one way, and to 29 hours the other.

These improvements will speedily follow the definite settlement of the political question. In the meantime, to talk of privations even in the present state of affairs, is idle. I have given a sketch of our journey from this to Suez, which for my own part I can recollect with no other feeling than that of having borne a part in a large and very entertaining pleasure party.

The station-houses in the Desert are commodious, especially the centre one, which is in fact a complete moderate sized hotel, and with some alteration in the arrangements, particularly in the stabling, which Mr. Hill is about to make, will leave nothing to be desired in this department.

The hotels of Hill and Waghorn at Cairo are large and well furnished, containing ample accommodation for 100 travellers at a time,

For invalids, or ladies, the donkey-chair forms as easy a conveyance as a palanquin or sedan, and the climate is so fine, especially about this period of the season, that exposure to the weather is an enjoyment rather than a privation.

THE TEMPERAMENTS.

FIRST PAPER.

"Temperament," as applied to the human frame, signifies much the same as Constitution. By temperament we understand the general distribution of solids and fluids throughout the human body, and the characteristic organization of individuals, by which their affections, habits, and desires, are greatly influenced. The temperaments have been long known, and have been by the ancients divided into four classes: the *lymphatic*, the *sanguine*, the *bilious*, and the *nervous*. The description of these will be deferred to a future paper. For the present we shall confine ourselves to the delineation of a system of recent origin, but which appears to be founded on more discriminating observation and more philosophical principles than those which have preceded it. By this, however, we would not be understood to assert the *fallacy* of the old system, but rather its *imperfection*; and to this objection the modern system also is liable. Both are founded in nature; but what is required is such a combination of the two as would form a scientific and philosophical theory of the temperaments.

The modern theory alluded to, and which we shall now proceed to explain, is that of Dr. Thomas, of Paris. He divides the temperaments into three classes,—the *cranial*, the *thoracic*, and the *abdominal*. The human body consists of three great parts,—the head, the chest, and the abdomen, each having its own particular functions to perform. It is an invariable law throughout the animal creation, that the character, disposition, and habits, are regulated by, and are dependent upon, those organs which are most predominant; and to this law man is subject. His mental and physical characteristics always conform to the functions of those organs which are most fully developed.

We will consider each of the three classes separately.

The Cranium, or Skull.—A large head, or rather a large brain, always indicates great intellect or passion. The brain being the organ of the mind, we invariably find that in proportion as it is larger than the other organs, the more energetic is the intellect or passions. It is, however, to be observed, that a large brain implies merely mental energy *of some kind.*

The Thorax, or Chest, is that cavity which lies between the neck and abdomen. Its size is regulated by that of the lungs and heart: when these are small and feeble, the chest is narrow and contracted. The lungs consist of an infinite number of small air-cells, which purify the blood, and assimilate the new blood which is being constantly added. When the lungs are large, the cells of which they are composed produce a complete sanguification. The heart, being large and powerful, propels the blood with great force, and thus maintains an active circulation through all the parts. Hence, a narrow chest always indicates weakness, while a full broad chest is at once suggestive of great physical energy. In females and children the thorax is generally smaller, and the pulse weaker, than in males.

The Abdomen, or belly, contains the viscera which are connected with digestion. In persons possessed of a large abdomen, the food is more perfectly converted into chyle than in others: they eat sparingly but frequently. On the contrary, persons possessed of a small abdomen eat much and with rapidity, but their digestive organs being less perfect, a great part of the food passes through the stomach before its nutritive parts have been extracted,—hence they remain comparatively spare and dry. In zoophites the abdomen constitutes the whole animal.

We have thus briefly noticed the functions of the brain, thorax, and abdomen, in order that we may the better understand their influence upon the human system, mental and corporeal. The Creator has so constituted His creatures, that their earthly happiness is dependent upon the use and exercise of those organs with which He has endowed them;—so that even those animals which are fixed to one spot, where they live, continue their species, and die, enjoy a sensation of pleasure of which their own or a similar constitution is alone susceptible. Such a mode of life would not only be misery to man, but if persevered in, would destroy the human race. Every sentient creature has its own peculiar constitution, and instinctively adopts a mode of life suited thereto. Man has not merely an animal, but a spiritual—a moral and an intellectual—constitution; and being subject to those laws by which all animated creation is governed, his mental and physical characteristics, as we before observed, always conform to the functions of those organs which are most fully developed. This will be more amply illustrated in the observations which we will now offer on the temperaments.

The Cranial Temperament is denoted by a large head, a moderate thorax, and a spare form. It is more common in males than in females,

in towns than in the country, in free more than in despotic governments. It is highly developed in men eminent for their talents, vices, or virtues. Great mental energy—intellect or passion—is always indicative of this temperament.

The *Thoracic Temperament* is denoted by a broad thick chest, and a strong healthy frame. It fits men for labour and fatigue, and is observed in great perfection in boxers, wrestlers, and pedestrians, and especially in the statues of gladiators. Men of such a temperament find their greatest happiness in a busy bustling life, in gymnastic exercises, and in feats of strength. They are unable to settle down to a sedentary employment, or to apply themselves closely to literary pursuits.

The *Abdominal Temperament* is indicated by a large abdomen and broad pelvis. Its possessor is slow in his movements, methodical in his arrangements, spiritless and unenterprising. His great aim is to satisfy his appetite, and to live in ease and comfort. The revolution of kingdoms or the fall of empires are alike unimportant to him, if he obtain a few of the good things of this world to carry him smoothly through it.

It is necessary to observe, that there are but few instances in which any one of the temperaments is to be found in a pure state. In determining the temperament of an individual, we must not suppose that because he has a large abdomen, he is an indolent, slothful epicure, averse to muscular exercise, and to intellectual pursuits; or that because he possesses a large cranium, he is either headstrong in his passions, or arduous in intellectual investigations; or that a large thorax necessarily implies a regard for the manly, vigorous, and athletic exercises only. This is an error which cannot be too carefully avoided. To form a proper estimate we must attend not only to the *commixture* of the temperaments, but to the degree in which each is developed. A few instances will explain what is meant.

The *Cranial-thoracic* temperament is that in which the cranium and thorax are equally developed. In such cases there is a combination of mental and muscular vigour. Its possessor is fitted either for study or business, or to occupy a position in which mental and physical energy are alike required. In the purely cranial temperament, the individual is led to too close mental application; his body, originally weak, is still further enfeebled; his health declines, and he falls a victim to asthma, consumption, or some other disease, which impairs, and perhaps destroys, mind and body. But when the thorax is large, and the cranium also, excessive and exclusive mental application becomes tedious, a general restlessness ensues, and the individual will not merely be disinclined, but even unable, to resume his mental labours until his physical frame has received its due exercise. He who possesses the cranial-thoracic temperament will therefore enjoy sounder health than a person of a purely cranial temperament, and eventually will make greater progress in science or literature than a person of a greater cranial development, but whose weaker physical frame is unable to keep pace with his mental powers.

We find the cranial-thoracic temperament developed in men remarkable for strength of intellect and a hardy physical constitution:—such as Franklin, Belzoni, Park, Napoleon, Wellington, Cromwell, Parry, Ross, &c. It is indispensable for a traveller, and for a military commander. A person of a merely thoracic temperament may be well fitted for a private soldier, whose duty is not to *judge* but to *act*; but a general must possess a sound and ready mind, and be able to govern and employ the mighty machine under his power,—to judge of his own strength and that of his enemy, and to dispose of his force to the greatest advantage, not merely previous to actual engagement, but in such a manner as to meet any sudden emergency that may afterwards arise. In addition to these, he must have a broad thorax, and a frame able to endure the vicissitudes and hardships of a campaign.

The *Thoracic-abdominal* temperament may often be seen. We frequently meet with persons who, although possessed of a large abdomen, display great bodily activity. In these cases it will be found that they likewise possess a large thorax: consequently their lives consist of alternate successions of activity and repose.

The *Mixed* temperament, in which the three parts are fully and equally developed, is most favourable for all kinds of exercise, perhaps the best for every-day life. However, it seldom rises above mediocrity, and is not often distinguished by overpowering genius. It is very common in France.

Those men in whom the three temperaments are largely and equally developed, may be regarded as prodigies. We cannot be in their company without discovering that they are far above the common level. They possess a strength of character which ensures them the respect of all; they may be greatly bad or good, greatly mischievous or useful; but they will be great.

With this temperament its opposite may be contrasted, that in which the three great organs, the cranium, the thorax, and the abdomen, are

alike deficient. Such a person is the very picture, the reality itself, of mental and bodily feebleness.

In all observations, and in our application of these principles, we must carefully attend to the *commixture* of the temperaments, and to the different relative proportions in which they exist in the same individual. We must also thoroughly understand their nature in their simple unmixed state, to enable us to estimate their effect when combined with each other in every possible variety and proportion.

VICTORIA BRIDGE.

(With an Engraving.)

Of all public edifices a bridge is the most necessary and the most generally useful, being open at all times and to all persons. It was probably the very first public building. Some conjecture that the first hint of it was taken from an uprooted tree lying across a narrow current; others, with greater probability, suppose that the necessity of placing stepping-stones across a ford, in cases of partial floods, would soon suggest the propriety of connecting the opposite banks by timbers laid upon such stones or upon piles. The erection of arches would of course follow at a much later period. The latter theory would better account for the singularly clumsy construction of many ancient bridges, which have been well compared to a thick wall pierced with small holes, through which the water, damed up by the fabric, rushed, or rather leaped, with dangerous velocity.

However formed, the manifest utility and convenience of a bridge would be acknowledged by all; and in proportion to the adjacent population, and the distance of similar structures, would the living tide of human beings flow over it, rendering it of all places the most eligible for the sale of commodities of general consumption. Hence the ancient practice of holding fairs and markets in the vicinity of the principal bridge of a town or city, and the still more singular custom, which has obtained in this and other countries, of erecting shops and dwellings on the battlements of bridges; whilst, either for the prompt lodgment of prisoners, or the greater security afforded by their insulated situation, the public gaol was no uncommon adjunct of an antique bridge; and in other cases, chapels in honour of some patron saint adorned, or rather encumbered, the limited roadway.

Most of these characteristics were exemplified in the bridge which occupied the site of that now claiming our attention. The Old or Salford Bridge, as it was styled, was either in course of erection or had existed previous to 1368, when Thomas del Booth, yeoman, of Barlow, had a chapel erected thereon, where prayers were to be offered for the soul of the founder; and from his will dated in that year, and deposited in the Record Office of Lancaster Castle, it appears he bequeathed "to the Bridge of Salford £30, payable in the three years next following his death."

The following proof of the singular rudeness of its construction is extracted from the Manchester Guardian of March 27th 1839:—

"On removing the key-stones of the arch on the Salford side, the whole of the masonry from the keystone to the centre pier fell over at once into the river, precipitating three or four of the workmen into the water; but fortunately none of them received any more serious injury than a considerable fright and a thorough ducking. On examining the centre pier, it was found to be quite untouched and unshaken, each of the three arches having merely pressed upon or rested against the outer surfaces of the piers and abutments."

It is only necessary further to state in reference to the Old Bridge, that—owing to the comparative narrowness of the roadway, which admitted of but one footpath, its steep inclination towards Salford, and its proximity to the new Terrace formed along the river by the Manchester Improvement Committee, and indeed mainly at the instance of that public spirited body,—the venerable pile was indicted at the Quarter Sessions for the Hundred of Salford, held in October 1836, as insufficient in road-way, foot-way, and water-way, and in September 1837 it was stopped, and the workmen commenced taking it down, a temporary wooden bridge for foot passengers having first been erected. In about six months after, the works were sufficiently advanced to enable the workmen to commence the erection of the present elegant and commodious edifice.

The first stone was laid on the 31st of March 1838, on a fine smooth bed of red sandstone, about twelve feet below the surface of the water, by Elkanah Armitage, Esq., Boroughreeve of Salford; and after more than ordinary difficulties, owing to the centres and apparatus being twice washed away by heavy floods, the last keystone was fixed with the appropriate formalities on the 23d of March 1839 by Mr. Humphry Trafford, eldest son of T. J. Trafford, Esq., whose estates are skirted by the Irwell for several miles, and have been possessed by his ancestors since the Conquest.

The New Bridge was opened to the public on the 20th of June 1839, the anniversary of Her Majesty's accession to the throne, when the civil and military authorities of the Boroughs

VIEW OF THE VICTORIA BRIDGE MANCHESTER.

of Manchester and Salford, and immense crowds of the inhabitants, vied with each other in celebrating the auspicious events thus happily associated.

The structure, in its general features, greatly resembles the justly celebrated bridge over the Dee, near Chester, which was opened by Her Majesty when Princess Victoria. Its single arch is 100 feet span, with a rise of 22 feet; the road-way from parapet to parapet is 45 feet; the foot-ways on both sides are 7 feet 6 inches each, leaving a carriageway of 30 feet; the battlements are 4 feet 9 inches high, and their cap-stones 22 inches broad, upon which are placed four highly-wrought cast iron lamp pillars and two stone orbs, the elegance of which is more than questionable.

A square block on the centre of the battlement, on the North side, bears the following inscription :—

"This bridge was built at the expense of the inhabitants of the hundred of Salford, upon the site of the Salford Old Bridge of three Gothic arches, erected in the year of our Lord 1365. The first stone was laid in the first year of the reign of Queen Victoria, and the bridge was opened in the third year of Her reign, and in the year of our Lord 1839, and was by Her Majesty's permission called Victoria Bridge."

The key-stone below is thus inscribed :—

"V.B.

CHARLES CARRINGTON, Bridgemaster, 1839."

And the key-stone on the South side thus :—

"JOHN GANNON, Contractor."

The highest praise of Victoria Bridge is the striking contrast it presents to its predecessor, in the increased accommodation afforded by its spacious foot-paths and carriageway to the multitudes who hourly throng them, and its admirable adaptation to the extensive improvements which have been effected on the Manchester side of the river.

By this judicious combination, not only have commodious outlets been provided from the centre of the town, and the refreshing breezes from the surrounding country permitted freely to circulate through a densely crowded district, but by the removal of the unsightly and huddled mass of building which occupied the site of the new road, and the approaches to the Bridge, that degree of prominence is given to the Collegiate Church and Cheetham's Hospital to which they are pre-eminently entitled, whether we regard their venerable antiquity, their characteristic architecture, or the high purposes to which they have been dedicated by the munificence and piety of their founders.

VISITS TO THE VICTORIA GALLERY OF PRACTICAL SCIENCE.

Under the above title, we purpose giving a series of papers, descriptive of the extensive collection of scientific and other objects at the Victoria Gallery for the Encouragement of Practical Science, in the Exchange Dining-room. The institution was opened in June 1840, and its objects, as detailed in the prospectus, are "to provide a permanent collection of models and apparatus to illustrate the arts and manufactures; to afford facilities for demonstrating practically such elementary principles in mechanics, chemistry, and other departments of practical science, as admit of direct application to the useful arts; to exhibit the progress which has been gradually making, and which may still be made, in branches of knowledge subservient to productive industry; and lastly, to stimulate research and foster inventive talent, by honorary or pecuniary rewards, and to furnish to the junior members of the community such attractions as may allure them to the acquisition of valuable knowledge, by affording them pleasure in the pursuit of it." In pursuance of these objects, a numerous and highly interesting collection of models and apparatus, antiquities, curiosities, and works of art, is already formed, and courses of lectures in different departments of Natural Philosophy are delivered during the year. Meetings for the discussion of scientific subjects also are periodically held, and the formation of a Scientific Library is in progress. The institution is admirably adapted for the purposes it contemplates, and reflects the highest credit on the town of Manchester.

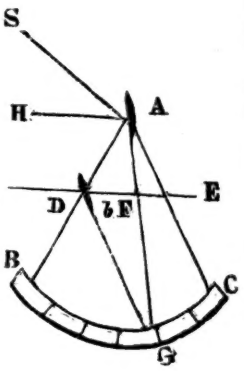
Upon entering the elegant, commodious, and well-lighted room, the first objects that strike the visitor's attention, on the right hand, are two engravings, the upper one a very beautiful specimen of anaglyptographic engraving, by means of which the subject, a salver of the sixteenth century, exhibits on the plane surface of the paper the appearance of embossing or bas relief. The lower picture is an engraving of one of Raffaell's celebrated Cartoons, representing the healing of the lame man at the Beautiful Gate of the Temple. It is executed with great taste and effect by Burnet, at the unprecedentedly low price of four shillings for a plate thirty inches long by twenty inches wide, and is designed, with several others by the same talented artist, to elevate the taste of the humbler and middle classes, by placing copies of the most celebrated works of art within the reach of all. In furtherance of the same laudable object, the above plate has been deposited in the Gallery by Mr. Grundy, of Ex-

change-street, from whom the other plates may be obtained. Of these the following are published: Christ's Charge to Peter, Paul preaching at Athens, Elymas the Sorcerer, and the Miraculous Draught of Fishes.—As the most extensive sale of these engravings will barely cover the cost of the plate, the paper, and the printing, the noble-minded artist having freely given his skill and labour, we shall rejoice if by this cursory notice we may induce any to follow the liberal example of our patriotic townsman, Sir Benjamin Heywood, who has purchased a considerable number of impressions, and presented them to various mechanics' and other institutions. Persons of the most limited means, when furnishing their houses, will not find any pictorial embellishments so truly cheap, while such is their intrinsic value that they will not disgrace the hall, the parlour, or the drawing room of the most opulent.

Advancing another step, the visitor is presented with a very convenient apparatus for ascertaining his weight, if not his gravity, by means of a chair suspended to one of Marriott's Patent Dial Weighing Machines, unless his attention is diverted from the experiment by the steadfast but pensive gaze of a young lady attired in mourning habiliments, who appears to watch all his movements; on proceeding nearer, however, he finds that the figure recedes, and that the illusion has proceeded from a large concave mirror placed at the end of the first table, near which are several other optical toys worthy of inspection.

On the right of the first window a large glazed case occupies the end of the room; it is divided into ten compartments, which are filled with a great variety of Electrical and other philosophical apparatus. On the upper centre shelf is placed an exquisite specimen of wood carving, executed by Mr. Holding, of Cooper-street. The subject is a Dead Bird, and the delicacy of the down of the neck and breast is unrivalled.—The recess formed by the first window is filled with a glazed frame, containing a number of the fossil remains of trees and shells found in the excavations for the Manchester and Leeds railway, and deposited here by Mr. Gooch, the engineer for that important undertaking.

On the first table at the end nearest the window is placed a glass case enclosing an Hydraulic Balance, deposited by M. J. A. Ransome. An adjoining similar case contains two highly finished mathematical instruments, deposited by our townsman, Mr. William Read. The first is a Sextant, an astronomical instrument resembling the Quadrant, but of more extensive use, and performing with greater correctness all the operations to which the latter can be applied. For the sake of our young friends especially we will describe the principle of its construction by the following diagram.



Let A B C represent a sextant, having an index, A G (to which is attached a mirror at A), moveable about A as a centre, and denoting the angle it has moved through on the arc B C; also let the half silvered (or horizon) glass *b* be fixed parallel to A C. Now, a ray of light, S A, from a celestial or other distant and elevated object, S, impinging against the mirror A, is reflected off at an equal angle, and striking the half silvered glass at D, is again reflected to E, where the eye likewise receives through the transparent part of that glass, a direct ray from the horizon. Then the altitude S A H is equal to double the angle C A G, measured upon the graduated limb, B C, of the instrument.

By this means the altitude of any celestial or terrestrial object may be ascertained with great precision; indeed, the sextant is in itself a portable observatory, and is one of the most generally useful instruments now employed, being capable of furnishing data for the solution of the most useful astronomical problems, affording the means of determining time, the latitude and longitude of a place, for which and many other purposes, it is invaluable to the land surveyor as well as the navigator.

The second is a Theodilite; it derives its name from a Greek word, signifying the measure of a way or distance. It is one of the most important instruments now used in surveying, and is principally employed to measure the angular distance of the leading or principal objects in a district for trigonometrical surveys, but is equally applicable for indicating the bearings of the walls of a building or the boundaries of an estate; it may also to a certain extent be employed as an altitude, azimuth, or transit instrument, for ascertaining the relative positions of celestial bodies, determining time, the latitude of places, and other astronomical operations.

As the Theodilite is too complex to allow of a description of the principle of its construction here, without several figures, we at once refer

for further information on the subject to a very valuable Treatise on the principal Mathematical Instruments, by F. W. Simms, Civil Engineer, London.

The sextant and theodilite now under notice have been made by Mr. William Rothwell, of London, who by means of the most exquisitely adjusted machinery, has succeeded in dividing graduated scales with such astonishing minuteness and accuracy, as to indicate the five-hundredth part of an inch.

Next in order may be noticed a Chinese steel-yard, suspended in front of the table, and on the table a wax model of the ear, and a sectional exhibition of its tubes and vessels, executed and deposited by J. H. Stanway; two magnetic electrical machines, and two electro-magnets, the one capable, when in action, of sustaining the extraordinary weight of 2,657 pounds, and the other that of 2,775 pounds.

Under a small glass shade a very pleasing illustration is given of what may be termed electro-perpetual motion. Under two baskets of artificial flowers are placed the positive and negative poles of a small battery; over these is suspended, in a horizontal position, by a fine metallic wire, a butterfly, which, changing its electrical character as it approaches either pole, is alternately attracted and repelled. This interesting experiment has, with very little interruption, been in operation for more than five years; and it will probably go on as long as the materials exist. A more simple example of the same experiment is furnished by the adjacent series of piles, styled, from the inventor, "Zamboni's Electrical Piles," in which the vibratory motion is communicated to a suspended pith-ball.

We were now (at half-past one) invited to witness one of the experiments performed daily by Mr. Sturgeon, the talented Superintendent, for the amusement and instruction of visitors to the Gallery. On this occasion they consisted of the exhibition of a number of dissolving landscapes and astronomical phenomena, by means of two large magic lanthorns, accompanied by a brief description of their construction, and the optical principles by which the various effects were produced.

[To be continued.]

Humility.—When the two goats, on a narrow bridge, met over a deep stream, was not he the wiser that laid down for the other to pass over him, than he that would rather hazard both their lives by contending? He preserved himself from danger, and made the other become debtor to him for his safety. I will never think myself disparaged either by preserving peace or doing good.—*Feltham.*

THE GREAT ARTESIAN WELL AT PARIS.

It was about the close of 1833, that M. Mulot became contractor for sinking the artesian well at Grenelle, to the additional depth of 1,200 feet. M. Mulot d'Epinay commenced the works of this great enterprise. On the 31st of December, 1836, the boring-rod had penetrated to a depth of 383 metres (1,256 English feet) through a hard chalk of a greenish colour, and very compact. In June, 1839, the borer had reached to 466 metres, (1,528 feet,) still advancing through the bed of chalk.

M. Mulot, Junior, has kept a journal of observation, which will be of great interest to the scientific world. The register marks not only the nature and thickness of the strata which have been penetrated, but shows the results of the most careful experiments made with the thermometer. M. Mulot has also preserved specimens of the different layers of earth, sand, rocks, and chalk, through which he has had to bore. At last, after seven years, one month, and twenty-six days (26th February, 1841) of labour, M. Mulot has succeeded in obtaining on one of the most elevated parts of the capital, the most magnificent result which has ever been effected by any similar process.

The well in the *abattoir* throws out literally a torrent of water, which M. Mulot estimates at nearly three cubic metres (nearly 700 English gallons) per minute, 180 metres per hour, and 4,320 metres (or nearly one million of gallons) per day. The water is thrown up with a force sufficient to elevate it more than 10 metres (33 feet) above the surface of the ground. M. Hemery, Superintendent of Roads and Bridges, calculates the force of ascension at the bottom of the well to be equal to 50 atmospheres, or 50 times the force which raises water to the height of 33 feet in an empty tube.

The orifice at the top is 35 centemetres (21 inches) in diameter, and 18 (7 inches) at the bottom. It is 547 metres (about 1,800 feet) deep, and a very strong iron pipe is inserted to the depth of 539 metres. Thus, the dome of the Invalides having an elevation of 100 metres (300 feet), the instrument, the rod, with which M. Mulot worked, was nearly $5\frac{1}{2}$ times the height of that monument. This borer, formed of bars of iron as thick as the axletree of a carriage, broke in the hole no less than three times, and it was only after incalculable toil that M. Mulot succeeded in extricating all the fragments, and was enabled to pursue his great undertaking.

The complete torrent of water incessantly poured forth from the well has converted one of the streets of the *abattoir* into a river; work-

men are at present employed in excavating a drain to carry it off. The water is blackish, and full of sand, but it has no taste or smell, and it dissolves soap perfectly; at the surface of the ground it sends forth vapour, like that from hot springs, and raises the thermometer to 28 degrees of Reaumer (95 degrees of Fahrenheit). M. Mulot feels confident that in seven or eight days, when the subterraneous passages are completely cleared, the water will be as pure as that from the rock.

This result, which has cost the city of Paris 160,000 francs (£6,600), is the fruit of several years of persevering labour, and resolves a geological problem of the highest importance, that of the existence of subterraneous sheets of water under the immense bed of green chalk which forms the basin of Paris.

The Minister of the Interior has visited this newly formed river, and expressed the highest admiration at the result of this wonderful undertaking, notwithstanding the almost insurmountable obstacles which stood in the way of success, and on his departure he announced that the King had appointed M. Mulot, Senior, Member of the Legion of Honour.

It appears, from a paper read by M. Arago to the French Academy of Science, that on one occasion, when the boring-rod broke, it occupied from May 1837 to Aug. 1838 to recover it; and at another time it fell with such immense force as to penetrate many feet into the chalk.

MILTON.

In a book in our possession, published in 1714, and intituled, "The History of T. Ellwood's Life," a distinguished member of the Society of Friends, the following passage occurs, which throws some light on the history of Milton's Paradise Regained:—"I was desired," he says, "by my quondam master, Milton, to take an house for him in the neighbourhood where I dwelt, that he might go out of the City, for the safety of himself and family, the pestilence then growing hot in London. I took a pretty box for him in Giles-Chalfont, a mile from me, of which I gave him notice, and intended to have waited on him, and seen him well settled in it, but was prevented by that imprisonment. But now being released, and returned home, I soon made a visit to him, to welcome him into the country. After some common discourses had passed between us, he called for a manuscript of his, which being brought he delivered to me, bidding me take it home with me, and read it at my leisure, and when I had so done, return it to him, with my judgment thereupon. When I came home, and had set myself to read it, I found it was that excellent poem, which he entituled, Paradise Lost. After I had with the best attention read it through, I made him another visit, and returned him his book, with due acknowledgment of the favour he had done me in communicating it to me. He asked me how I liked it, and what I thought of it, which I modestly but freely told him; and after some further discourse about it, I pleasantly said to him, "Thou hast said much here of Paradise Lost, but what hast thou to say of Paradise Found?" He made me no answer, but sat some time in a muse, then brake off that discourse, and fell upon another subject. After the sickness was over, and the City well cleansed and become safely habitable again, he returned thither; and when afterwards I went to wait on him there, (which I seldom failed of doing, whenever my occasions drew me to London) he shewed me his second poem, called Paradise Regained, and in a pleasant tone said to me, "This is owing to you, for you put it into my head by the question you put to me at Chalfont, which before I had not thought of."

EDUCATION.

HOME TRAINING.

There are few topics which comprehend interests so lofty and varied, or that contemplate results so momentous and enduring, as Education. Its subject is Man; its operations extend to the unlimited improvement of his immeasurable capacity for knowledge and happiness; it stamps its character upon the immortality of his being; and includes within its influence all his relations, personal, domestic, social, and religious. Its object is nothing less than the realization of the good ordained for him by the Divine benevolence, in his creation and redemption, to the highest degree compatible with the disciplinary and probationary character of his present existence, and the mysterious grandeur and beatitude of the Future.

The agency by which these great results are to be accomplished is clearly indicated by the division of mankind into families, in which the acknowledged authority of the parent, and the conscious dependence of the child, give to the parental character an adaptation for the office only surpassed by its universality and perpetuity. But we are not left to the deductions of unaided reason on this important subject. The responsibilities and obligations of the heads of families have been deemed of such moment, that a large portion of sacred Scripture is devoted to the illustration and enforce-

ment of parental duty by the most impressive examples of the domestic and national prosperity consequent on its conscientious discharge, and the awful retribution to families and states which has inevitably followed the neglect of this primary law of our nature.

The Great Teacher of our later and superior dispensation has poured a flood of light upon this as upon every other subject connected with our higher destinies. He declares children to be eminently the objects of the Divine regard; he delighted to honour their simplicity, their docility, and their trustfulness; and He denounces the heaviest woes against any who, by indolently, negligently, or wilfully withholding knowledge or instilling error, shall cause one of the least of them to stumble in the onward path of their existence. In perfect harmony with these doctrines of their Lord, we find that his Apostles, in every enumeration of the relative and social duties, have set forth the special obligations of the parental office with unceasing urgency, clearly demonstrating that as no other agency can exert the potent influence exercised by parents, so also the duties of the character are universal, untransferrable, and unchangeable.

It is vain for any to plead incompetency, the want of time or of disposition for the prompt and continuous discharge of the duties of education. The qualification must be acquired, the time redeemed, the disposition cultivated. Nay, it is impossible that parents, whilst spared to their families, should do otherwise than educate them; their own ignorance is perpetuated in its effects upon their children; their indolence trains; their indifference teaches; there is not a word, look, passion, or action of a parent which does not fix its permanent impress upon the minds and habits of his children, either for good or evil. There is no choice, therefore, but that of those who, "by patient continuance in well-doing, seek" for themselves and families "glory, honour, and immortality," or of those "who do not obey the truth," and thereby incur "indignation and wrath, tribulation and anguish."

The means to be employed may be divided into two classes, the first including every thing which bears upon the physical well-being of man, the healthy flow of his affections, the faithful exercise of moral principle, or conscience, the subjection of his mind to the authority of God, and the habitual repose of his spirit upon its own immortality and the unchangeable perfections of his Creator and Redeemer. The second class of means relates to those minor, because temporary interests which are modified by or dependent upon the artificial state of society or other circumstances. Happily, the former, if properly applied, will not only secure due attention to the subordinate class, but they adapt themselves to all the changes of age or condition through which each member of the great family of man may pass; they are therefore first in importance, the happiness both of parent and child being bound up with their faithful application from the earliest stages of infancy.

On these accounts, we shall give a prominent place to HOME TRAINING in the illustration of the principles we have briefly enumerated, without, however, overlooking SCHOOL TUITION and SELF-EDUCATION, with both of which it is intimately connected; and we hope, by pursuing this subject, to render some assistance to parents and to mothers especially, of every class, as well as to teachers and the young of both sexes, in the consummation of their highest hopes and the achievement of their noblest purposes.

HOME TRAINING.

The most formidable obstacles to Home Training may be traced either to the defective education of parents, or to the more prevalent and plausible idea that they have not time and ability for the task. It is to be regretted, that many able writers on Education have countenanced the last-mentioned error, and in their eagerness to establish their favourite systems, have magnified the difficulties of family teaching, and the advantages of sympathy arising from numbers and association in schools, far beyond what sober reason or experience will justify. Powerful as these auxiliaries may be, they ought not to be urged to the disparagement or hindrance of parental effort during the earlier years of childhood, or its still more important co-operation with any system of school instruction, however excellent.

Without adverting further at present to this debatable subject, it may be premised, that the utmost simplicity is essential to success in home training; that the danger of cramming the young mind with more information than it can understand or digest, is sedulously to be guarded against; that whilst only a little is done at once, it must be frequently repeated; that as the attention of children cannot long be maintained on one subject, variety is indispensable; and lastly, that intervals of active exercise are as necessary as they are beneficial.

The formation of the habit of *observation* is one of the first means requiring attention. It is wisely ordained that the earliest efforts of the infant mind to notice surrounding objects yield the highest delight to a mother; and if the novelty of these essays at observation did not wear off, the same pleasurable feelings

might be maintained and increased with the most advantageous results, both to parents and children in after life. The unceasing activity of the latter,—their intense thirst for information, and the ample materials which even the humblest dwelling, and the ordinary occurrences of every day life, supply,—may, by a little foresight and method, be rendered the most efficient auxiliaries in cultivating the habit of observation, at an inconsiderable expense of time and attention, when compared with the mischievous and ruinous effects which the neglect of this means will inevitably entail.

The habit of *reflection* is more difficult to excite, especially in continuous effort upon any given subject; yet children are constantly exercising the power of reflection in a desultory manner, which can only be corrected by leading them, by easy stages, to form comparisons, and deduce inferences in a connected form, respecting the objects presented to their senses.

Their general delight in *pictures* may be rendered highly available for the formation of the above habits, as well as for the equally important object of teaching language. The Rev. Jacob Abbott has furnished a very superior picture book, intituled, "The Little Scholar learning to Talk," which will materially aid mothers in carrying out the above views, as also "The Picture defining Book," by M. Gallaudet. His observations on the subject are very important. "One of the greatest defects," he remarks, "in the elementary education of children, is, that so little effort is made to lead them to attach precise and distinct ideas to words. Of what use are books to children, if they do not understand them? And how can they be enabled to understand books, if no effort is made to teach them the import of the words and phrases of which books are composed?

"To accomplish this important object some set the little child to studying definitions; but the misfortune is, that in most cases the terms employed in the definitions themselves need defining, and without are as unintelligible to the child as the original word to be defined. He is thus led into the unfortunate habit of merely ringing changes upon words, and thinking that he understands one word because he knows how to substitute an imperfect synonyme in its stead. Definitions are of little use in teaching very young children the meaning of words. But the language of *pictures*, which is the language of nature, known and understood by all men, may be used, in the accomplishment of this object, with great success, and to a vast extent, if judiciously employed, and if accompanied with a suitable corresponding effort on the part of the teacher."

We may observe, that by those to whom the above or similar works are inaccessible, any pictures may be used. That which accompanies this Number, for example, may be thus employed as an exercise for very young children who have to be taught the *names* of things. A short enumeration of the leading objects will be sufficient for the first lesson; thus:—

A bridge—an arch—a river—part of a boat—a house—a chimney—part of a church tower.

At a subsequent exercise they may be asked the names of one or two of the objects; and a third or fourth lesson will generally suffice to furnish them with so many additional words to their vocabulary, with the great advantage of a definite idea being attached to each word.

For older children, whose attention can be longer sustained, the following additions may be made:—

The Victoria Bridge, Manchester—one arch—the river Irwell—the Collegiate Church—the tower, the clock, the vanes, the flag staff—part of a vessel—the forecastle, the deck, the capstan, the anchor, the cable—a woman nursing a child—five sailors, three wearing caps, two, hats—a dog—a bucket—a kennel—on the left, a quay—a post—another sailor mooring the vessel—three men near the bridge; another tying his shoe—two barrels—on the right, a rock, a house, a door, thirteen windows—three lamps—a tall chimney.

It must not be forgotten, that the primary object of such a series of exercises is to lead to the habits of observation and reflection by a simple but attractive process; yet it will be obvious that, if properly used, it will also greatly facilitate the acquirement of the rudiments of composition and arithmetic.

Children who can write may, after one or two verbal exercises, be very pleasantly employed in writing down the objects represented, their number, qualities, and actions; and then, connecting the whole, they will soon find it comparatively easy to describe any scenes or occurrences in actual life.

[To be continued.]

Knowledge the highest source of Pleasure.—For the pleasure and delight of knowledge, it far surpasseth all other in nature. We see in all other pleasures there is satiety; and after they be used, their verdure departeth—which showeth well that they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, and not the quality; and therefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety—but satisfaction and appetite are perpetually interchangeable. —*Bacon.*

COLUMNS FOR THE YOUNG.

HAFED'S DREAM.

(From Todd's *"Truth made Simple.")*

At the foot of one of those gigantic mountains in Asia, which lift up their heads so far above the clouds that the eye of man never saw their summits, stood a beautiful cottage, facing the east. The mountain stream leaped and murmered on the north; the verdant plain, where the bright-eyed gazelle sported, lay spread out in front; the garden and the olive-yard, filled with every flower and every fruit which an oriental sun could pencil and ripen, lay on the south; while back, on the west, rose the everlasting mountain. Here were walks, and shades, and fruits, such as were found nowhere else. The sun shone upon no spot more luxuriant; the moonbeams struggled to enter no place more delightful; and the soft wings of the breezes of evening fanned no such abode in all the East. The howl of the wolf was never heard here; the sly fox never came here to destroy; and here the serpent's hiss was never heard.

This cottage was the home of Hafed, the aged and the prosperous. He reared this cottage; he adorned this spot; and here, for more than fourscore years he had lived and studied. During all this time the sun had never forgotten to visit him daily; the harvest had never failed, the pestilence had never destroyed, and the mountain stream had never dried up. The wife of his youth still lived to cheer and bless him; and his son and daughter were such as were not to be found in all that province. No youth could rein the horse, hurl the javelin, chase the lion, or delight the social circle like this son. No daughter of kings could be found so beautiful and perfect as was this daughter, with an eye so bright and joyous, and a form so symmetrical, as hers.

But who can insure earthly happiness? In one short week Hafed was stripped of all his joys.

His wife went to see a new white peacock, which it was said a neighbour, who lived a mile off in the ravine, had just brought home. She took cold, and a quick fever followed; and on her return, Hafed saw that she must die. Before two days were gone, the old man was standing at her open grave. He gazed long, and said impatiently, "Cover her,—cover the only woman that I ever loved!"

The son and the daughter both returned from the burial of their mother, fatigued and sick. The nurse gave them, as she thought, a simple medicine. In a few hours it was found to be poison. Hafed saw that they must die;—for the laws of nature are fixed, and poison kills. He buried them in one wide, deep grave, and it seemed as if in that grave he buried his reason and his religion. He tore his grey hair,—he cursed the light of day, and wished the moon turned into blood; and above all, he blasphemed his God, declaring that the laws which he had established were all wrong, useless, and worse than none. He wished the world were governed by chance; but as this was a hopeless wish, he wished that at his death he might go to a world where there was no God to fix unalterable laws. He arraigned the wisdom of God in his government over this world, declaring that his plans were weak, and worse than none, and that it would be far better to have no God in the universe!

In the centre of Hafed's garden, stood a large beautiful palm-tree. Under it was Hafed sitting the second evening after closing the grave over his children. The seat on which he sat had been reared by his son. On the leaf of the tree which lay before him, were some exquisite verses written by the pencil of his daughter. Before him lay the beautiful country, covered with green, sprinkled here and there, as far as the eye could see, with the habitations of men, and upon this great landscape the shadows of the mighty mountains were now setting. In the east, the moon was just pushing up her modest face, and the gold of day was softening into the silver of night. While Hafed looked on all this, grief began to swell in his throat; his tongue murmered; his heart was full of hard thoughts of God, which nearly amounted to blasphemy.

As the night deepened, Hafed, as he then thought, fell asleep with a heavy heart. When he supposed he awoke, it was in a new spot. The mountain, the landscape, the home, were all gone. All was new.

As he stood wondering where he was, he saw a creature approaching him, which, at first, he mistook for a baboon; but on its coming near, he discovered that it was a creature somewhat resembling a man, but every way mal-formed, ill-shaped, and monstrous.

He came up and walked around Hafed as he would a superior being, exclaiming, "Beautiful, beautiful creature!"

"Shame, shame on thee!" said Hafed; "dost thou treat a stranger thus with insults? Leave off thy jests, and tell me where I am, and how I came here!"

"I do not know how you came here, but here you are in our world, which we call *chance world*, because every thing happens here by chance."

"Ah! is it so? This must be delightful! This is just the world for me. Oh! had I always lived here, my beautiful children would not have died under a foolish and inexorable law! Come, show me this world,—for I long to see it. But have ye really no God, nor any one to make laws and govern you just as he sees fit?"

"I don't know what you mean by God; we have nothing of that kind here,—nothing but chance; but go with me, and you will understand all about it."

As they proceeded, Hafed began to notice that every thing looked queer and odd. Some of the grass was green, some red, some white, some new, and some dying; some grew with the top downward; all kinds were mingled together; and on the whole, the sight was very painful. He stopped to examine an orchard: here chance had been at work. On a fine-looking apple-tree, he saw no fruit but large, coarse cucumbers. A small peach-tree was breaking down under its load of gourds. Some of the trees were growing with their tops downwards, and the roots branching out into the air. Here and there were great holes dug, by which somebody had tried to get down twenty or thirty feet, in order to get the fruit. The guide told Hafed that there was no certainty about these trees; and you could never tell what fruit a tree would happen to bear. The tree which this year bears cucumbers, may bear potatoes next year, and perhaps you would have to dig twenty feet for every potatoe you obtained.

They soon met another of the "chance men." His legs were very unequal in length, one had no knee, and the other no ankle. His ears were set upon his shoulders, and around his head was a thick, black bandage. He came groping his way, and Hafed at once asked him how long since he had lost his sight?

"I have not lost it," said he; "but when I was born my eye-balls happened to be turned *in* instead of out, and the back parts being outwards, are very painful in the light, and so I put on a covering."

"Well, but canst thou see anything? Methinks thou mayest see strange things within."

"True, but the difficulty is to get any light in there. I have contrived various ways to do so,—have had it poured into my ears and nose; but all will not do. Yet I am as well off as others. My brother has one good eye on the top of his head; but he only looks directly up with it to the clouds; and the sun almost puts it out. He shuts it most of the time during the day; but it happens to be one of those eyes that will not stay shut, and so when he sleeps the flies trouble him badly. I have a sister who has nineteen eyes in her head; but they are a vexation. She sees eighteen things too many. Even now she can't realize that she has not nineteen fathers, and as many mothers. She goes to bed, and falls on the floor nineteen times at least before she gets in. She goes to drink, and sees nincteen cups, and knows not which is the real cup. But so it happened, and she is as well off as most in this 'chance world.' But after all it's a glorious world, I do assure you."

"Wonderful," said Hafed.

[Conclusion of Hafed's Dream in our next.]

Poetry.

THE BRIDE'S FATHER.

BY C. SWAIN.

The last kiss is given—the last adieu sigh'd—
The bridegroom's away with his beautiful bride.
Alone sits the father—alone in his years!
The mansion is silent, the old man in tears!
He thinks of her sweetness, which sooth'd ev'ry care,
And he fondly looks up, as expecting her there.
Ah! when was the time he such sorrow had shown,
And she came not?—but now the old man weeps alone.

And could she remember his fondness, that threw
Fresh flowers o'er her path every moment she knew—
That granted each wish her light heart could prefer—
Who in the wide world had but her—only her!
Oh, nature! how strange and unfeeling appears
This breaking of all the affections of years,
For one who a summer ago was unknown!
Yet that *one* has her heart: the old man weeps alone!

No, not for a crown—as an emperor's bride—
Had I quitted a father's affectionate side!
I'd thought on his evenings, long, lonely, and dim,
And priz'd not a love unconnected with him;
Deem'd the one who'd have sooth'd not my father's decline
(Howe'er he might love me) unworthy of mine;
Nor chang'd the affections 'neath which I had grown,
Nor left a fond father, old, cheerless, and lone!

Literary Gazette.

ODDS AND ENDS.

GENUINE ELOQUENCE.—One man whom I saw sitting on the ground, leaning his back against the wall, attracted my attention by a degree of squalor in his appearance which I had rarely observed before, even in Ireland. His clothes were ragged even to indecency,—a very common circumstance, however, with the males, and his face was pale and sickly. He did not address me, and I passed by; but having gone a few paces, my heart smote me, and I turned back. "If you are in want," said I, with some degree of peevishness, "why do you not beg?" "Sure, it's begging I am," was the reply.—"You did not utter a word?" "No! is it joking you are with me, Sir? Look there," holding up the tattered remnant of what had once been a coat: "Do you see how the skin is speaking through the holes of my trousers, and the bones crying out through my skin? Look at my sunken cheeks, and the famine that's staring in my eyes! isn't it begging I am with a hundred tongues."—*Leitch Ritchie's Ireland.*

A COMPARISON.—It is with narrow-souled people as with narrow-necked bottles—the less they have in them, the more noise they make in pouring it out.

Caleb Whiteford, the famous punster, once inquired seriously of Dr. Johnson, whether he really considered that a man ought to be transported, like Barrington the pickpocket, for being guilty of a double meaning. "Sir," said Johnson, "if a man means well, the more he means the better."

SOUTH AMERICAN COMFORTS.—"I have been reconnoitering the insects in my bedroom, just before going to bed (nine o'clock). The clay walls are perforated with holes nearly an inch in diameter, out of each of which protrudes an enormous black rascal of a spider; not your delicate innocent spider, but a black, ferocious-looking fellow, two inches long, with a body as thick as my thumb; one big fellow was comfortably lying on my pillow. Millions of ants run about the floor, and I have been chasing the infernal cockroaches about the room. A large frog was sitting in a dignified attitude upon my portmanteau. He gave me chase, too, jumping three feet high at every hop; but I settled him, and in the morning he was buried beneath some thousands of ants on the clay floor. Verily, the best sleeping-place in these houses is a hammock; for there the frogs cannot quite jump upon you, saying nothing of rats, and scorpions, and centipedes, and fleas, all of which I find are sore enemies to a man's repose."

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"M. in the Middle" will perceive that we have complied with his request.

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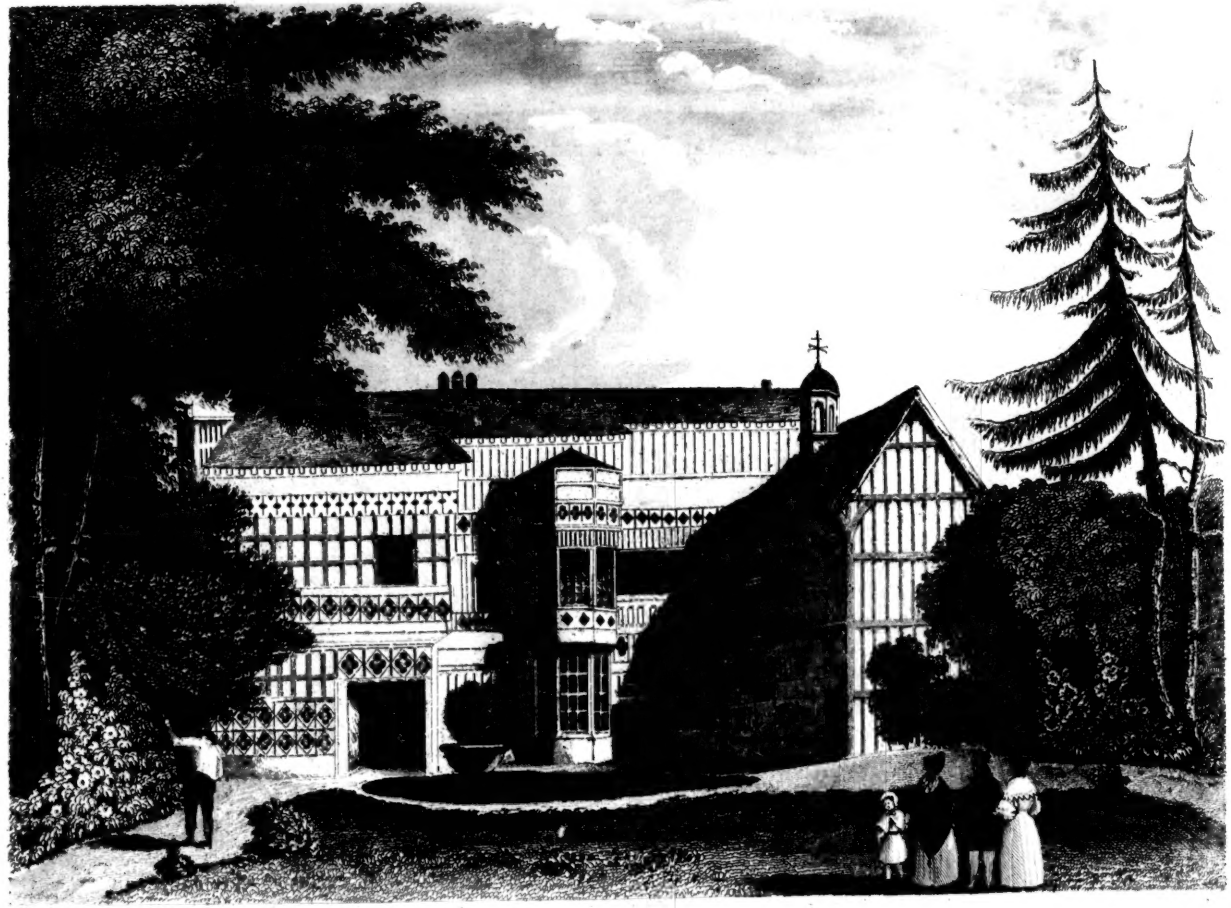

VIEW OF FANEUIL HALL.